

REMARKS

The Examiner's Answer of July 26, 2006, has been received and reviewed.

Claims 1-3, 5-41, and 43-55 are currently pending and under consideration in the above-referenced application, each standing rejected.

Reconsideration of the above-referenced application is respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 3, 5-9, 19-21, 22, 30-35, 43, 44, and 50-52 stand rejected under 35 U.S.C. § 102(b) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent 5,258,648 to Lin (hereinafter "Lin").

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Lin describes a composite flip chip semiconductor device. Col. 1, lines 28-31. The semiconductor devices of Lin include interposers 22 with electrical vias 24 extending therethrough. Col. 4, lines 52-54.

Independent claim 1 recites a chip-scale package that includes a semiconductor device and a substrate with a first surface disposed adjacent an active surface of the semiconductor device. At least one electrically conductive via comprising solder extends at least partially through the substrate to communicate with a corresponding bond pad of the semiconductor device. The substrate also includes a second surface, which is opposite from the first surface, which carries at least one conductive trace, which communicates with the at least one conductive via.

In contrast to independent claim 1, Lin does not expressly or inherently describe a substrate with at least one electrically conductive via that comprises solder. Rather, the disclosure of Lin is limited to filling etched or laser drilled holes with conductive material. Col. 6, lines 66-68.

As Lin does not anticipate each and every element of independent claim 1, under 35 U.S.C. § 102(b), the subject matter to which independent claim 1 is drawn is allowable over the disclosure of Lin.

Claims 3, 5-9, and 19 are each allowable, among other reasons, for depending directly from independent claim 1, which is allowable.

Independent claim 21 is directed to a chip-scale package with a substrate that includes first and second surfaces, conductive vias comprising solder extending therethrough, and a semiconductor device invertedly disposed adjacent to the first surface of the substrate. The first surface of the substrate includes contact areas that correspond to an arrangement of bond pads on the semiconductor device. An opposite, second surface of the substrate, which faces away from the semiconductor device, carries at least one conductive trace.

Again, Lin includes no express or inherent description of a substrate with conductive vias that comprise solder.

As such, under 35 U.S.C. § 102(b), the subject matter to which independent claim 21 is drawn is allowable over the subject matter described in Lin.

Each of claims 22 and 30-35 is allowable, among other reasons, for depending either directly or indirectly from independent claim 21, which is allowable.

Independent claim 43 recites a carrier with at least one via comprising solder that extends from a first surface of the carrier, adjacent to which a semiconductor device is to be positioned, to an opposite, second surface of the carrier. At least one conductive trace, which extends laterally from an end of the via, is carried by the second surface of the carrier.

Once more, Lin does not expressly or inherently describe a substrate with at least one electrically conductive via that comprises solder.

Therefore, under 35 U.S.C. § 102(b), the subject matter recited in independent claim 43 is allowable over the subject matter described in Lin.

Claims 44 and 50-52 are each allowable, among other reasons, for depending either directly or indirectly from independent claim 43.

Reversal of the 35 U.S.C. § 102(b) rejections of claims 1, 3, 5-9, 19, 21, 22, 30- 35, 43, 44, and 50-52 is respectfully requested, as is the allowance of each of these claims.

Rejections under 35 U.S.C. § 103(a)

Claims 2, 10-18, 20, 26-29, 36, and 53-55 stand rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Lin in View of Gnadinger

Claims 2, 11-14, 20, 23-25, 30, 31, 37-41 and 45-49 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Lin, in view of teachings from U.S. Patent 5,229,647 to Gnadinger (hereinafter "Gnadinger").

Claims 2, 11-14, 20, 23-25, 30, 31, 37-41 and 45-49 are allowable, among other reasons, for depending directly or indirectly from independent claim 1, 21, or 43, each of which is allowable.

Lin in View of Kim

Claims 10, 15, 18, 26, 27 and 36 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Lin, in view of teachings from U.S. Patent 6,004,867 to Kim et al. (hereinafter "Kim").

Claims 10, 15, 18, 26, 27 and 36 are allowable, among other reasons, for depending directly or indirectly from independent claim 1 or 21, each of which is allowable.

Lin and Kim in View of Higgins

Claims 16, 17, 28 and 29 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Lin and Kim as applied to claim 1 above, and further in view off U.S. Patent 6,294,405 to Higgins, III (hereinafter "Higgins").

Claims 16, 17, 28 and 29 are allowable, among other reasons, for depending directly or indirectly from independent claim 1 or 21, each of which is allowable.

Lin in View of Tokuda

Claims 53-55 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Lin in view of teachings from U.S. Patent 5,870,289 to Tokuda et al. (hereinafter "Tokuda").

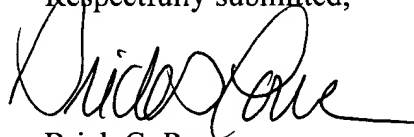
Claims 53-55 are allowable, among other reasons, for depending directly or indirectly from independent claim 43, which is allowable.

Therefore, withdrawal of the 35 U.S.C. § 103(a) rejections of claims 2, 10-18, 20, 26-29, 36, and 53-55 is respectfully requested.

CONCLUSION

It is respectfully submitted that each of claims 1-3, 5-41, and 43-55 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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